

CLAIMS:

1. A system for displaying modulated light comprising a light valve (110) for modulating light originating from a light source unit (102), and comprising separating means (104) for splitting said light from said light source unit (102) into at least two colour bars (304, 308, 312) and scrolling means (122, 124, 126) for sweeping said at least two colour
5 bars (304, 308, 312) over said light valve (110), said system characterized in that said scrolling means (122, 126, 126) comprising communication means (132, 134, 136) adapted to communicate said at least two colour bars (304, 306, 308) partly overlapping thereby generating at least one further colour bar (302, 306, 310) for said light valve (110).
- 10 2. A system according to claim 1, wherein said light valve (110) comprising a panel having a plurality of pixels, which panel is adapted to received said sweeping at least two colour bars (304, 308, 312), and wherein said system further comprising panel addressing means adapted to write information to said plurality of pixels when receiving a new colour bar (302, 304, 306, 308, 310, 312).
- 15 3. A system according to claim 2 further comprising an electronic colour decoder circuit adapted to convert a colour image signal to driving colour signal for driving each of said plurality of pixels and for generating a colour image in accordance with a combination of said driving signal and said colour bars (302, 304, 306, 308, 310, 312).
- 20 4. A system according to any of claims 1 to 3, wherein said at least two colour bars comprising a red (304), a green (308) and a blue (312) colour bar and wherein said communication means (132, 134, 136) is adapted to overlap said red and blue colour bars (304, 312) to generate a purple colour bar (302) for said light valve (110), overlap said red
25 and green colour bars (304, 308) to generate a yellow colour bar (306) for said light valve (110), and overlap said green and blue colour bars (308, 312) to generate a cyan colour bar (310) for said light valve (110).

5. A system according to claim 4 further comprising an optical component positioned in light path from said light source unit (102) to said light valve (110) and operable to enable spectral parts of the light from the light source unit (102) in the spectrum at 500 nm or 600 nm to hit said cyan colour bar (310) and said yellow colour bar (306).
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6. A system according to any of claims 1 to 5, wherein said separating means (104) comprising a first, a second and a third rotating element, such as a prism (122, 124, 126), a wheel, a drum, a polygon mirror, a vibrating element or any combination thereof, for generating said red, green and blue colour bars (304, 308, 312).
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7. A system according to claim 6, wherein said rotating element comprising a micro electro-mechanical element.
8. A system according to any of claims 1 to 7, wherein said light valve (110) comprising a LCD based light modulating element.
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9. A system according to any of claims 6 to 8, wherein said communication means comprising slits (132, 134, 136) positioned before said first, second and third rotating element (122, 124, 126) and each having a width (314, 316, 318) defining overlap between said red, green and blue colour bars (304, 308, 312).
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10. A system according to any of claims 1 to 9, wherein said separating means (104) further comprises dichroic colour filters (114, 116, 118, 120), and reflecting mirrors (128, 130).
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11. A system according to any of claims 6 to 10 further comprising a controller for controlling phase and rotation of said rotating elements (122, 124 and 126) so as to project and scroll on said colour bars (302, 304, 306, 308, 310, 312) on to said light valve (110) at specific times in relation to said colour image signal.
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12. A system according to any of claims 4 to 11 further comprising filter means (502, 504, 506) for filtering of said red, green or blue colour bar (304, 308, 312).

13. A system according to any of claims 4 to 11 further comprising filter means (502, 504, 506) for filtering of said green colour bar (308).
14. A system according to claim 13, wherein said filter means (502, 504, 506) comprising a first filter for enabling said yellow colour bar (306), a second filter for enabling said green colour bar (308), and a third filter for enabling said cyan colour bar (310).
15. A system according to claim 14, wherein said first filter substantially passes light having a wavelength in the range 560 to 590 nm, said second filter substantially passes light having a wavelength in the range 510 to 560 nm, and said third filter substantially passes light having a wavelength in the range 480 to 510 nm.
16. A system according to claim 15, wherein said first filter further passes parts of light having a wavelength in the range between 480 to 510 nm, and said third filter further passes parts of light having a wavelength in the range between 560 to 590 nm.
17. A system according to any of claims 13 to 16, wherein said filter means (502, 504, 506) comprises a first wave guide for enabling said yellow colour bar (306), a second wave guide for enabling said green colour bar (308), and a third wave guide for enabling said cyan colour bar (310).
18. A system according to claim 17, wherein said first wave guide substantially passes light having a wavelength in the range 560 to 590 nm, said second wave guide substantially passes light having a wavelength in the range 510 to 560 nm, and said third wave guide substantially passes light having a wavelength in the range 480 to 510 nm.
19. A system according to claim 18, wherein said first wave guide further passes parts of light having a wavelength in the range between 480 to 510 nm, and said third wave guide further passes parts of light having a wavelength in the range between 560 to 590 nm.